

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Michael J. Heller et al.

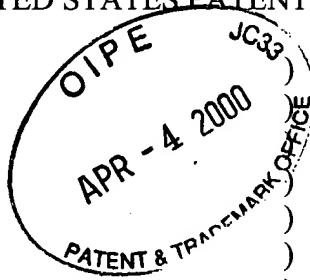
Serial No.: 09/374,338

Filed: August 13, 1999

For: MICROELECTRONIC MOLECULAR
DESCRIPTOR ARRAY DEVICES, METHODS,
PROCEDURES AND FORMATS FOR
COMBINATORIAL BINDING STRUCTURES AND
FOR DRUG SCREENING

Group Art Unit: 1743

Examiner: Not Yet Assigned



INFORMATION DISCLOSURE STATEMENT

Box Missing Parts
Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Pursuant to 37 C.F.R. §1.56 and in accordance with 37 C.F.R. §§1.97-1.98, information relating to the above-identified application is hereby disclosed. The accompanying Form PTO-1449 provides a listing of documents which may be relevant to the subject application.

It is requested that the Examiner fully consider the art cited in the accompanying Form 1449, initial the left-most column of the form adjacent each cited reference, and return a copy for Applicants' records. It is further requested that the art be cited on the cover of any patent issuing from the subject application.

OC-44390.1

CERTIFICATE OF MAILING
(37 C.F.R. §1.8a)

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as First Class Mail in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

March 31, 2000
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In accordance with §1.97(b), this Information Disclosure Statement is being filed before the issuance of the first Official Action, and therefore no fee is required.

In accordance with §1.98(d), copies of the references listed on the attached Form PTO-1449 are not enclosed herewith because they were previously cited by or submitted to the Patent and Trademark Office in prior related applications, for which a claim for priority under 35 U.S.C. §120 has been made in the instant application. Accordingly, Applicants will provide duplicate copies in respect of the present case only if the Examiner so desires.

This statement should not be construed as a representation that more material information does not exist or that an exhaustive search of the relevant art has been made. Nor does this statement constitute an admission by Applicants or Applicants' agent that the information provided herein is necessarily prior art to Applicants' invention. Moreover, Applicants reserve the right to establish the patentability of the claimed invention over any of the listed documents should they be applied there-against as references. Please charge any deficiency or credit any overpayment to Deposit Account No. 12-2475.

Respectfully submitted,

LYON & LYON LLP

Dated: March 31, 2000

By: 

David Murphy
Reg. No. 31,125

DBM/dnd
633 West Fifth Street, Suite 4700
Los Angeles, California 90071-2066
(949) 567-2300 or (213) 489-1600

241/172

09/374,338

**LIST OF PATENTS AND OTHER ITEMS FOR APPLICANT'S
INFORMATION DISCLOSURE STATEMENT**

APPLICANT:

Michael J. Heller et al.

FILING DATE:

August 13, 1999

GROUP:

1743

(Use several sheets if necessary)

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
AA	4,563,419	01/86	Ranki	435	6	12/83
AB	4,751,177	01/88	Stabinsky	435	6	6/85
AC	4,787,963	11/88	MacConnell	204	450	5/87
AD	5,143,854	09/92	Pirrung et al.	436	518	3/90
AE	5,202,231	04/93	Drmanac et al.	435	6	6/91
AF	5,219,726	6/93	Evans			
AG	5,605,662	02/97	Heller et al.	422	68	11/93
AH	5,632,957	08/97	Heller et al.	422	68	9/94
AI	5,653,939	08/97	Hollis et al.	422	50	8/95
AJ	5,695,940	12/97	Drmanac et al.			
AK	5,744,305	04/98	Fodor et al.			
AL	5,849,486	12/98	Heller et al.	435	6	8/96
AM	6,017,696	1/00	Heller et al.	435	6	7/94

FOREIGN PATENT DOCUMENTS

EXAM INITIAL	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBC LASS	TRANSLATION YES NO
AN	0228075	7/87	EP (Dattagupta et al.)			
AO	88/10400	1988	GB (Southern)			
AP	PCT/US99/03080	2/99	PCT			
AQ	WO90/01564	2/90	PCT (Adams et al.)			
AR	WO86/03782	7/86	PCT (Malcolm et al.)			
AS	WO89/10977	11/89	PCT (Southern)			
AT	WO96/13522	5/96	PCT (Virtanen)			
AU	WO97/43232	11/97	PCT (Miculka)			
AV	WO98/25943	6/98	PCT (Eschenmoser)			
AW	WO98/51819	11/98	PCT (Heller)			
AX	WO99/15509	9/97	PCT			
AY	WO99/15539	9/97	PCT			

OC-44407.1

Examiner: Not Yet Assigned

DATE CONSIDERED:

EXAMINER: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant

FORM PTO-1449 LIST OF PATENTS AND OTHER ITEMS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)	ATTY. DOCKET NO. 241/172	SERIAL NO. 09/374,338
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FOREIGN PATENT DOCUMENTS									
EXAM INITIAL	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES	TRANSLATION NO		
AZ	WO99/15540	9/97	PCT						
BA	WO99/15541	9/97	PCT						
BB	WO99/15542	9/97	PCT						
BC	WO99/15893	9/97	PCT						
BD	WO99/29711	6/99	PCT (Heller et al.)						
BE	2156074	10/85	UK (Palva et al.)						
BF	57087	87	Yugoslavia (Drmanac)						

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)									
BG	Anderson and Young, "Quantitative Filter Hybridization," <u>Nucleic Acid Hybridization - A Practical Approach</u> , Eds. B.D. Hames and S.J. Higgins (Washington, D.C.: IRL Press 1985) pp 73-111								
BH	Bains, "Setting a Sequence to Sequence a Sequence," <u>Bio/Technology</u> , 10:757-758 (1992)								
BI	Barinaga, "Will 'DNA Chip' Speed Genome Initiative?", <u>Science</u> , 253:1489 (1991)								
BJ	Beattie et al., "Genosensor Technology," <u>The 1992 San Diego Conference: Genetic Recognition</u> , pp 1-5 (Nov, 1992)								
BK	Beltz et al., "Isolation of Multigene Families and Determination of Homologies by Filter Hybridization Methods," <u>Methods in Enzymology</u> , 100:266-285 (1983)								
BL	Brady, A. et al., <u>J.Chem.Soc., Perkin Trans.</u> , 1, 1997, pp. 3237-3253								
BM	Cheng J. et al., <u>Nature/Biotechnology</u> , 16, 6/98, pp 541-546								
BN	Conner et al., "Detection of Sick Cell β^3 -Globin Allele by Hybridization With Synthetic Oligonucleotides," <u>Proc. Natl. Acad. Sci. USA</u> , 80:278-282 (1983)								
BO	Drmanac et al., "Sequencing of Megabase Plus DNA by Hybridization: Theory of the Method," <u>Genomics</u> , 4:114-128 (1989)								
BP	Drmanac et al., "DNA Sequence Determination by Hybridization: A Strategy for Efficient Large-Scale Sequencing," <u>Science</u> , 260: 1649-1652 (1993)								
BQ	Edman C.F. et al., <u>Nucleic Acids Research</u> , 25, 1997, 4907-4914								
BR	Fodor et al., "Multiplexed Biochemical Assays With Biological Chips," <u>Nature</u> , 364:555-556 (1993)								
BS	Fodor et al., "Light-Directed, Spatially Addressable Parallel Chemical Synthesis," <u>Science</u> , 251:767-773 (1992)								
BT	Fredericks P.M., et al., <u>Materials Characterization Using FT-IR Spectra. Part 2: Mathematical & Statistical Considerations</u> , <u>Applied Spectroscopy</u> , 39, 2, 1989, p. 311								
BU	Ghadiri, M. R. et al., <u>Nature</u> , 366, 1993, pp 324-327								
BV	Gilles P.N. et al., <u>Nature/Biotechnology</u> , 17, no. 4, 1999, 365-370								

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FQRM PTO-1449 LIST OF PATENTS AND OTHER ITEMS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)	ATTY. DOCUMENT NO. 241/172	SERIAL NO. 09/374,338
	APPLICANT: Michael J. Heller et al.	
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OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	BW	Guo Z. et al., Nucleic Acids Res, vol. 22, no. 24, 1994, pp 5456-5465, Direct Fluorescence Analysis Of Genetic Polymorphism By Hybridization With Olognucleotide Arrays
	BX	Hayakawa Y. et al, J.Am.Chem.Soc. 112, 1990, 1691
	BY	Heller, M.J., IEEE Engineering In Medicine & Biology, March/April 1996, 100-104 An Active Microelectronics Device For Multiplex DNA Analysis
	BW	Huc, I., Lehn, J.M., Proc.Nat.Acad.Sci.USA, 94, 1997, pp 2106-2110
	BZ	Kozal M.J. et al., Nature Medicine, vol. 2, no. 7, 1996, 753-759
	CA	Lehn J.M., J.Chem.Soc. Chem. Commun., 49, 1990
	CB	Malinowski E.R. et al, Factor Analysis In Chemistry, John Wiley & Sons, New York, 1980
	CC	Marshall, A. et al, Nature Biotechnology, vol. 16, 1998, pp 27-31
	CD	Miculka, C. et al, European BioPharmaceutical Review, 6/98, pp 52-57
	CE	Pitsch, S et al, Helv. Chim. Acta, 76, 1993, 2161-2183
	CF	Ramsay, G., Nature Biotechnology, vol. 16, 1998, pp 40-44
	CG	Ranki et al., "Sandwich Hybridization as a Convenient Method for the Detection of Nucleic Acids in Crude Samples," <u>Gene</u> , 21:77-85 (1983)
	CH	Sosnowski R. et al., Proc. Natl.Acad.Sci, 94, 1997, 1119-1123
	CI	Southern et al., "Analyzing and Comparing Nucleic Acid Sequences by Hybridization to Arrays of Oligonucleotides Evaluation Using Experimental Models," <u>Genomics</u> , 13:1008-1017 (1992)
	CJ	Strezoska et al., "DNA Sequencing by Hybridization: 100 Bases Read by a Non-Gel-Based Method", <u>Proc. Natl. Acad. Sci. USA</u> , 88:10089-93 (1991)
	CK	Taylor P. et al, Principles Of Drug Action-The Basis Of Pharmacology, Edited by W.B. Pratt, P. Taylor, Third Edition, Churchill Livingston, 1990, pp 1-74.
	CL	Wallace et al., "Hybridization of Synthetic Oligodexribonucleotides to ϕ x 174 DNA: The Effect of Single Base Pair Mismatch," <u>Nucleic Acid Res.</u> , 6:3543-3557 (1979)
	CM	Zhang, Y. et al, J.Am.Chem.Soc., 116, 1994, pp 1661-1669

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